

REMARKS

In the Official Action mailed 15 January 2009, the Examiner reviewed claims 2 and 4-15. The Examiner has rejected claims 2 and 4-15 for double patenting; and has rejected claims 2 and 4-15 under 35 U.S.C. §102(b). The Petition to add Kudva as an inventor has been granted.

Applicant has added new claims 16-18. Claims 2 and 4-18 are now pending.

Each rejection is respectfully traversed below.

Rejection of Claims 2 and 4-15 for Double Patenting

The Examiner has rejected claims 2 and 4-15 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-54 of U.S. Patent No. 6,453,446.

Applicant has submitted terminal disclaimers on behalf of both assignees of the '446 patent.

Accordingly, reconsideration of the rejection of claims 2 and 4-15 is respectfully requested.

Rejection of Claims 2 and 4-15 under 35 U.S.C. §102(b)

The Examiner has rejected claims 2 and 4-15 under 35 U.S.C. §102(b) as being anticipated by Tsay *et al.* (US 5,461,576). Applicant presents the DECLARATION OF MARTIN WALKER, Ph.D., under 37 C.F.R. §1.132, as evidence that the Tsay *et al.* does not anticipate the claims herein. The declaration is self-explanatory, and establishes that Tsay *et al.* does not anticipate the claims herein.

One point made by Dr. Walker is that, in Tsay *et al.*, the timing analysis requires that the size of the cell be known. This is fundamentally different than the process described in the present application, where an initial delay value is determined without specifying the size.

As stated by the Federal Circuit in *Net Moneyin, Inc. v Verisign, Inc.*, 545 F.3d 1359 (Fed. Cir. 2008),

Because the hallmark of anticipation is prior invention, the prior art reference--in order to anticipate under 35 U.S.C. § 102--must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements "arranged as in the claim."

Id. at 1369

The declaration of Dr. Walker demonstrates that Tsay *et al.* does not anticipate the claims herein for two reasons: (A) the reference does not disclose at least two steps in claim 2, and (B) the reference does not disclose the elements of the claim “arranged as in the claim.”

Claim 2 reads as follows:

2. An automated method for designing an integrated circuit layout with a computer, comprising:

- (a) selecting a plurality of cells that are intended to be used in the integrated circuit layout;
- (b) determining initial delay values associated with the cells prior to determining an initial placement of the cells; and
- (c) performing an initial placement of the cells, including determining an initial size or area of the cells in response to the initial placement.

Tsay *et al.* describes a process in which cells are selected from a cell library, and used by a slack generator to produce delay information used for an initial placement. The process of Tsay *et al.* performs iterations on placement using the slack generator in order to provide a final placement. The basic structure of the Tsay *et al.* process is shown in its Fig. 3. The step of determining the initial size or area of the cells is not described in Tsay *et al.*

A. The Reference does Not Disclose at Least Two Steps in Claim 2

Tsay *et al.* does not describe at least two limitations in claim 2. First, Tsay *et al.* does not describe the last part of step (c) in the claim, reading “determining an initial size or area of the cells in response to the initial placement.” Second, Tsay *et al.* does not describe step (b) in the claim, reading “determining initial delay values associated with the cells prior to determining an initial placement.”

Note that because of step (c) in the claim, the step (b) of “determining initial delay values ...” must also occur before determining the initial size or area of the cells. Tsay *et al.* does not disclose that relationship between determining initial delay values and determining initial size or area.

In Tsay *et al.*, an initial placement is provided at block 124 in Fig. 3. See, column 7, lines 13-16. Although Tsay *et al.* does not mention initial sizing, according to the well known prior art as described in the background section on pages 1 and 2 of the present application, the initial size of the cell was at the time of this invention typically determined from the cell library in advance of initial placement.

Again, Tsay *et al.* does not explicitly discuss the determination of the initial size or area of cells at all. In the implementations described, as Dr. Walker establishes information including size, about the cells subject of placement is retrieved from a standard cell library 12 and used by the slack generator before initial placement. (Tsay *et al.*, column 3, lines 38-56; and column 4, lines 6-31). This is a clear distinction over the claims at issue herein.

The Office Action relies upon the statement in Tsay *et al.* at column 2, lines 42-45, reading “Another advantage of the present invention is that an electronic design automation tool is provided in which the same concept can be applied to other applications for timing optimization, such as routing, sizing and logic synthesis.” This passage in Tsay *et al.* is not relevant to the claim limitations concerning “determining initial size or area of the cells in response to initial placement”. It does not mention initial sizing. It does not establish any relationship between initial sizing and initial placement as required by the claims. It does not establish any relationship between initial sizing and determining initial delay values as required by the claims.

A priori, there is no description in Tsay *et al.* of a process as required by claim 2, which includes determining initial size or area in response to initial placement, and determining initial delay values before determining initial size or area.

B. The Reference Does Not Disclose the Elements of the Claim “Arranged as in the Claim

It is indisputable that the reference does not describe the elements of claim 2, “arranged as in the claim.” For this second reason, the rejection is based on clear error, and should be reversed. See, *Ex parte Magnus Nilsson*, Appeal No. 2007-2376, (BPAI, Feb. 25, 2008).

The Examiner appears to argue, though not explicitly so, that Tsay *et al.* would be read by persons of skill as disclosing the claimed steps, including determining an initial size or area of the cells in response to initial placement. Applicants disagree as explained above. Applicants

submit that it is insufficient for the Examiner to find that one of skill in the art would interpret the reference to teach initial sizing in some unstated form. Rather, there must be description in the reference that shows the claimed elements “arranged as in the claim.” The Office Action does not address this requirement for a finding of anticipation. Furthermore, the reference does not support it.

C. Dependent Claims 4-15 are Not Anticipated

Claims 4-15 depend from claim 2, and are not anticipated by Tsay *et al.* for at least the same reasons. Reference is made to the RESPONSE/AMENDMENT filed on 03 November 2008 for further discussion of these claims.

Accordingly, reconsideration of the rejection of claims 2 and 4-15 as amended is respectfully requested.

New Claims 16-18

New claims are added to present additional aspects of the invention. Support for step (a) in claim 16 is found in the original application in the section beginning on page 16, line 1 entitled “Library Analysis”. Support for step (b) is found in the section beginning on page 31, line 8, entitled “mapping” (see page 32, line 16 for “timing driven covering method”). Support for step (c) is found in the sections concerning buffering and compressing and stretching in which the initial delay values used in placement are determined using the library values or values adjusted by further analysis. Support for step (d) is found on page 56, lines 4-15.

New claim 17 is supported in the section entitled “Buffering”, beginning on page 45.

New claim 18 is supported in the section entitled “Compressing or Stretching of Gate Delays”, beginning on page 48.

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CONCLUSION

It is respectfully submitted that this application is now in condition for allowance, and such action is requested.

The Commissioner is hereby authorized to charge any fee determined to be due in connection with this communication, or credit any overpayment, to our Deposit Account No. 50-0869 (SYNP 1006-0).

Respectfully submitted,

Dated: 15 June 2009

/Mark A. Haynes/

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